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INTRODUCTION.

This REVIEW is based on reports for March, 1890, from 2,311 regular and voluntary observers. These reports are classified as follows: 171 reports from Signal Service stations; 121 reports from United States Army post surgeons; 7 reports of rainfall observations of the United States Geological Survey in New Mexico; 1,420 monthly reports from state weather service and voluntary observers; 23 reports from Canadian stations; 183 reports through the Central Pacific Railway Company; 386 marine reports through the co-operation of the Hydrographic Office, Navy Department; marine reports through the "New York Herald Weather Service;" monthly weather reports from the local weather services of Alabama, Arkansas, Colorado, Illinois, Indiana, The Iowa Weather Crop Bulletin Service, Kansas, Kentucky, Louisiana, Michigan, Minnesota, Missouri, Meteorological Report of the Missouri State Board of Agriculture, Nebraska, Nevada, New England, New Jersey, New York, North Carolina, North and South Dakota, Ohio, Oregon, Pennsylvania, South Carolina, and Tennessee, and international simultaneous observations. Trustworthy newspaper extracts and special reports have also been used.

CHARACTERISTICS OF THE WEATHER FOR MARCH, 1890.

The great flood in the lower Mississippi valley, which continued throughout the month, and the group of destructive tornadoes in Kentucky, southern Indiana, southern Illinois, and southeastern Missouri on the 27th, constituted the more remarkable features of the month. At most of the important points along the lower Mississippi river the water was the highest ever known, but the levees were in better condition than during great floods of preceding years, and many of the more important levees were firm and in good condition at the close of the month. On the 4th the water reached the danger line, 34.0 feet, at Memphis, Tenn. On the 11th the high water mark of 1874, 16.2 feet, was reached at New Orleans, La. On the 13th the water reached 17.0 feet on the gauge at New Orleans, La., the highest point ever reached at that place, but no material injury was reported. On this date the stage of the water was 36.5 feet at Memphis, Tenn.. this reading being 0.1 foot higher than ever before recorded at that point. On the 14th a gauge reading of 36.6 feet was noted at Memphis, Tenn. On the 27th the water at Arkansas City, Ark., was 2.2 feet above the high water mark of 1884. On the 9th crevasses occurred in the levees at Sappington Hook, Ark., and Alsatia, La.; on the 12th there was a break in the main levee at Alsatia, La.; on the 13th crevasses occurred at Nita Plantation and Plattenville, La., and Mayersville, Miss.; on the 14th crevasses occurred twelve miles below Donaldsonville, La., and at Bohemia, La.; on the 15th a crevasse occurred at Pecan Grove, La., this being the largest break reported for the month; on the 18th crevasses occurred at Offutt, Miss., and Luna, Ark.; on the 20th, at Jesuit Bend, La.; on the 25th, about one and one-half mile above Arkansas City, Ark.; on the 26th, at Skipwith, Miss., and Live Oak, La.; on the 27th, at Laconia, Ark.; on the 28th, at Columbia, Ark., Easton and Huntington, Miss.; on the 30th, at Austin, Miss.; and on the 31st at Greenville, Miss. Along the Ohio River and its tributaries flood conditions prevailed throughout the month, causing heavy losses and much suffering in low lying districts. At the close of the month the rivers were above the danger line from Cincinnati to the Gulf of Mexico, and the outlook in the lower Mississippi valley was discouraging.

The tornadoes of the 27th in Kentucky, southern Indiana, southern Illinois, and southeastern Missouri developed in the southeast quadrant of a low pressure storm which had advanced from the north Pacific coast southeastward to Colorado, and thence eastward over Kansas, Missouri, and Illinois, and within three hundred miles of the storm-centre. The most destructive of this group of tornadoes occurred in Kentucky, where upwards of one hundred lives were lost, and property to the value of about $4,000,000 was destroyed. In Louisville, alone, the loss of life was seventy-six, and many persons were injured, and the losses to property aggregated about $2,500,000. In Indiana the severest storms occurred in the extreme southern part of the state, where, at Jeffersonville, the Louisville tornado, which crossed the river at that point, demolished many buildings, without, however, an attendant loss of life. In Illinois seven lives are known to have been lost, many persons were injured, and the damage to property amounted to at least $200,000. In southeastern Missouri four lives were lost, while the reported damage to property is not heavy. In Tennessee severe wind storms caused the loss of several lives, and the damage to property was very great. Destructive wind and hail storms prevailed on this date from the Rocky Mountains eastward over the Ohio Valley and Lake region, but no lives were lost west of the Missouri River. Tornadoes were also reported at Excelsior, Ark., on the 11th, where a number of persons were injured and houses demolished; on the 22d, in Georgia, North Carolina, and South Carolina, where several persons were killed and much damage was done to buildings; and on the 21st a severe storm damaged crops at Howe, Tex.

The highest temperature reported was 105°, at Camp del Rio, Tex., on the 20th, and the lowest temperature noted was —40°, at Pokegama Falls, Minn., on the 5th. The month was warmer than the average March along the eastern slope of the Rocky Mountains, along the immediate Atlantic coast north of South Carolina, in New England, the Canadian Maritime Provinces, the Saint Lawrence Valley, the eastern part of the lower lake region, and in eastern Manitoba. In all other sections of the country the month was cooler than usual, and in